Claim Rejections - 35 USC § 112

Claims 21-45 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21 line 9-10 "a tank...connected to at least one of the hydraulic transformer and the connecting line" contradicts line 4-5 "a connecting line solely connecting at least one of the hydromotors to a hydraulic transformer" (emphasis added), since this indicates that the connecting line is connected only to the transformer and the hydromotor.

In claim 25 line 2-3 "the high pressure line to at least one of the hydraulic transformer and the connecting line" contradicts claim 21 line 7, since the high pressure line is solely connected between the pressure source and the transformer.

In claim 31 line 2-3 "one connecting line that is coupled to the low pressure line via a non-return valve" contradicts claim 21 line 4-5, since the connecting line is solely connected between the transformer and the hydromotor.

In claim 33 last two lines "rotate at a second angle which is similar to the first angle" is confusing, since it is unclear what similar means. Perhaps applicant means -- rotate at a second angle about an axis similar to an axis about which the first angle rotates--.

In claim 34 line 7-8 "a plurality of face plate gates for closing the fluid chambers" contradicts the specification, which states "Via the face plate gates 30 and the conduits b in the face plate 10, the cylindrical chambers12 are in communication with one or two of the radial housing bores 6" (page 7 line 24-26). Suggest that "face plate gates for closing the fluid chambers and" be deleted and replace "connecting the" with – connecting a plurality of—.

In claim 37 and 44 line 3-4 "all three walls between the rotor gates can close a fluid chamber simultaneously" is impossible, since only one of the walls can close a fluid chamber at a time. Suggest that –close respective fluid chambers, simultaneously, for a particular position of the rotor—replace "can close a fluid chamber simultaneously".

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Double Patenting

Claims 21-27, 31-36 and 43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,116,138 in view of Crosby and Roche. Claim 3 of U.S. Patent No. 6,116,138 claims a hydraulic transformer converting a first fluid flow having a first pressure into a hydraulic power of a second fluid flow having a second pressure by supplying or discharging a third fluid flow having a third pressure, comprising a rotor freely rotatable in a housing, chambers varying in volume between a minimum and a maximum (claim 1 line 1-13), and a face plate provided with face plate conduits for alternatingly connecting the fluid chambers with three line connections, which face plate is rotatable around a rotation axis by an adjustment means, and is provided with means for, without interruption, keeping a face plate conduit in communication with the respective line connection (claim 3 line 1-5); but does not claim that the transformer is part of an apparatus, which includes a high pressure line solely connecting a pressure source to the transformer, a connecting line connecting a hydromotor to the transformer; and a tank connected to the transformer or the connecting line; a control means controlling the adjustment means and including a sensor for measuring flow in the connecting line; with the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying; that the maximum volume is maximally three times the minimum volume; or that there is between nine and twelve chambers.

Crosby teaches, for a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjustment means (including 36) controlling a continuously variable setting of the transformer; that the transformer is part of a fluid system comprising a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6).

Since claim 3 of U.S. Patent No. 6,116,138 and Crosby are from the same field of endeavor, the system using the transformer of Crosby would have been appropriate for the transformer of 3 of U.S. Patent No. 6,116,138. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use the transformer of claim 3 of U.S. Patent No. 6,116,138 in a system wherein a connecting line solely connecting the transformer to a hydromotor; high and low pressure lines solely connecting the transformer to a pressure source and to a tank, respectively; and a control means, including a sensor, controlling the adjustment means to control the pressure in the connecting line, as taught by Crosby, as a matter of engineering expediency.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

Official notice is taken that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line as the sensor of the modified claim 3 of U.S. Patent No. 6,116,138, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Official notice is taken that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of the modified claim 3 of U.S. Patent No. 6,116,138 a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Official notice is taken that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of the modified claim 3 of U.S. Patent No. 6,116,138, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Claim Rejections - 35 USC § 103

Claims 21-27 and 30-32 are rejected under 35 U.S.C. § 103 as being unpatentable over Crosby in view of Roche. Crosby discloses a fluid system comprising a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjusting means (including 36) controlling a continuously variable setting of the transformer; a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6); but does not disclose that the sensor measures flow in the connecting line, the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; or that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

Official notice is taken that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line in place of the pressure sensor of Crosby, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Official notice is taken that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of Crosby a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Official notice is taken that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of Crosby, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Conclusion

Claims 28, 29, 37-42, 44 and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Toutant and Schenkelberger refer to hydraulic transformers..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

F. Daniel Lopez
Primary Examiner
Art Unit 3745
February 24, 2003

BACKFILE DOCUMENT INDEX SHEET

A DOCPHOENIX

APPL PARTS

_____ IMIS ____
Internal Misc. Paper

_____ LET. ____
Misc. Incoming Letter

_____ 371P ____
PCT Papers in a 371Application

_____ A... ____
Amendment Including Elections

_____ ABST ____
Abstract

_____ ADS ____
Application Data Sheet

_____ AF/D ____
Affidavit or Exhibit Received

_____ APPENDIX ____
Appendix

_____ ARTIFACT ____
Artifact

_____ BIB ____
Bib Data Sheet

_____ CLM ____
Claim

_____ COMPUTER ____
Computer Program Listing

_____ CRFL ____
All CRF Papers for Backfile

_____ DIST ____
Terminal Disclaimer Filed

_____ DRW ____
Drawings

_____ FOR ____
Foreign Reference

_____ FRPR ____
Foreign Priority Papers

_____ IDS ____
IDS Including 1449

_____ NPL ____
Non-Patent Literature

_____ OATH ____
Oath or Declaration

_____ PET. ____
Petition

_____ RETMAIL ____
Mail Returned by USPS

_____ SEQLIST ____
Sequence Listing

_____ SPEC ____
Specification

_____ SPEC NO ____
Specification Not in English

_____ TRNA ____
Transmittal New Application

_____ CTNF ____
Count Non-Final

_____ CTRS ____
Count Restriction

_____ EXIN ____
Examiner Interview

_____ M903 ____
DO/EO Acceptance

_____ M905 ____
DO/EO Missing Requirement

_____ NFDR ____
Formal Drawing Required

_____ NOA ____
Notice of Allowance

_____ PETDEC ____
Petition Decision

OUTGOING

_____ CTMS ____
Misc. Office Action

_____ 1449 ____
Signed 1449

_____ 892 __/__
892

_____ ABN ____
Abandonment

_____ APDEC ____
Board of Appeals Decision

_____ APEA ____
Examiner Answer

_____ CTAV ____
Count Advisory Action

_____ CTEQ ____
Count Ex parte Quayle

_____ CTFR ____
Count Final Rejection

INCOMING

_____ AP.B ____
Appeal Brief

_____ C.AD ____
Change of Address

_____ N/AP ____
Notice of Appeal

_____ PA.. ____
Change in Power of Attorney

_____ REM ____
Applicant Remarks in Amendment

_____ XT/ ____
Extension of Time filed separate

Internal

_____ SRNT ____
Examiner Search Notes

_____ CLMPTO ____
PTO Prepared Complete Claim Set

_____ ECBOX ____
Evidence Copy Box Identification

_____ WCLM ____
Claim Worksheet

_____ WFEE ____
Fee Worksheet

File Wrapper

_____ FWCLM ____
File Wrapper Claim

_____ IIFW ____
File Wrapper Issue Information

_____ SRFW ____
File Wrapper Search Info

REV 7/02/03

Notice of References Cited	Application/Control No. 09/601,961	Applicant(s)/Patent Under Reexamination ACHTEN, PETER AUGUSTINIUS	
	Examiner F. Daniel Lopez	Art Unit 3745	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2,550,405	04-1951	Crosby	60/451
	B	US-2,933,897	04-1960	Toutant	60/419
	C	US-3,039,266	06-1962		Schenkelberger60/419
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Creation date: 05-14-2004
Indexing Officer: JFUNSTEN - JAMES FUNSTEN
Team: OIPEBackFileIndexing
Dossier: 09601961

Legal Date: 08-26-2003

No.	Doccode	Number of pages
1	A...	2
2	CLM	7
3	REM	5
4	LET.	3
5	XT/	1

Total number of pages: 18

Remarks:

Order of re-scan issued on .....